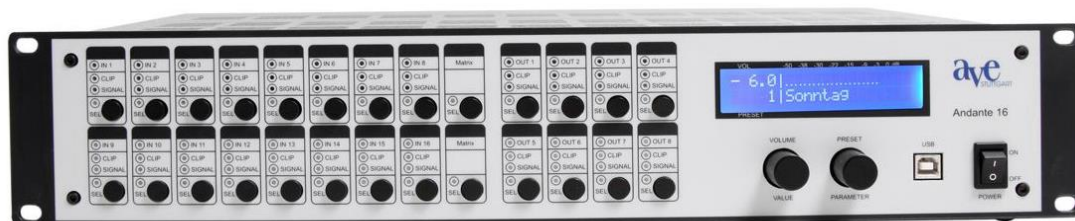


Andante 16

Digital Mixer
With 16 mic/line inputs and 8 outputs



User Manual

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Subject to technical changes

Contents

Table of contents

Introduction
Safety instructions
Scope of delivery
Explanation and description of the Andante 16

Section 1 (qualified personnel)

Installing the software
Programming the Andante 16

Section 2 (user)

Operation of the Andante 16 in user mode

Section 3 (Admin)

Changes in settings

Technical Specifications
Notice

Introduction

Thank you for choosing the 16-channel digital mixer “Andante 16” from AVE.

No matter what your requirements are, due to its advanced technical design, it ensures trouble-free use with sound exposure in a variety of facilities such as churches, courtrooms, government offices, conference rooms, schools, universities, etc.

The following statements and descriptions refer to the “Andante 16”, but are also applicable for the “Andante 8”, since only the number of inputs and outputs are different.

The Andante 16 is equipped with its own software. This makes the programming via laptop or PC easily and conveniently.

Safety Instructions

LOCATED INSIDE THE UNIT ARE HAZARDOUS VOLTAGES. DO NOT REMOVE THE COVER. INTERNAL MODIFICATIONS OR SERVICE WORK SHOULD ONLY BE CONDUCTED BY QUALIFIED SERVICE PERSONNEL.

The “Andante 16” comes with an approved power cable. At one end of this cable is a three-pronged AC power connector (IEC plug) and at the other end of a CE-standard-compliant Schuko-plug for connection to a 230 V / 50 Hz AC voltage source. Please ensure that this power supply cable is not damaged. Do not use defective or damaged power cables!

Scope of delivery

Please check immediately upon receipt the package integrity, the contents for completeness and proper delivery of the unit.

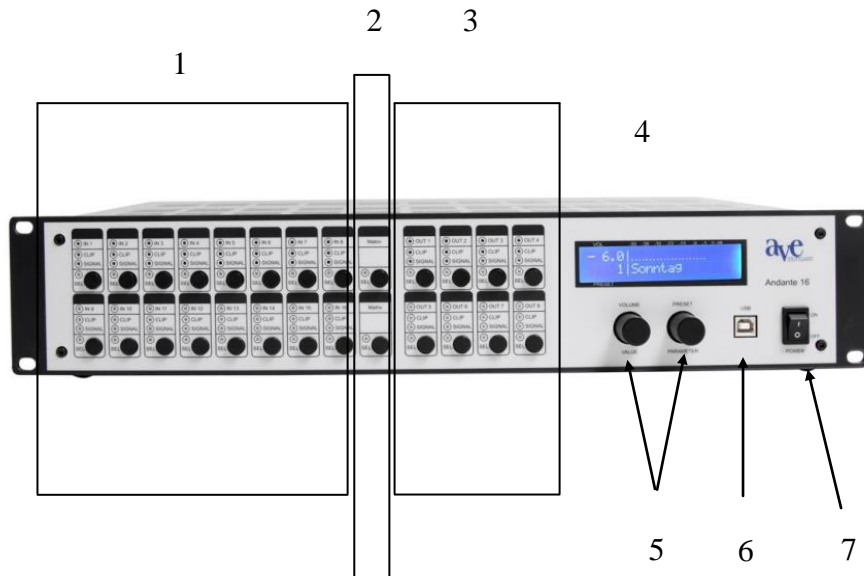
The delivery scope of the unit includes:

- The “Andante 16”
- USB - stick
- USB - cable
- Operating instructions
- Power supply cable

Please keep the operating instructions in a safe place and make them available to qualified personnel for making necessary changes to the device.

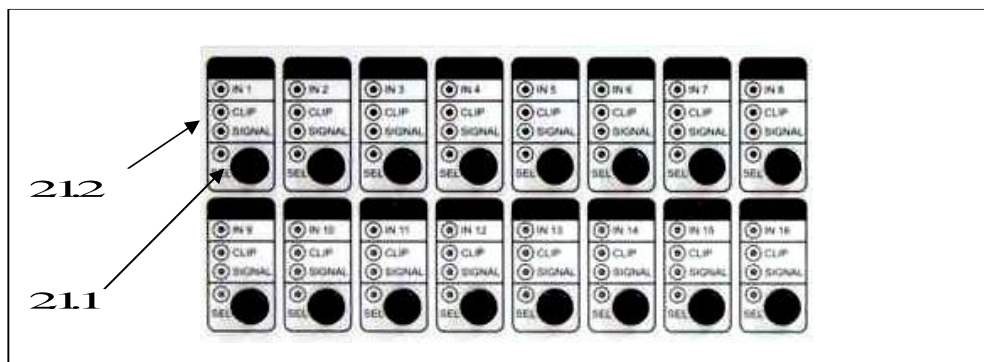
Explanation and description of the „Andante 16”

You should acquaint yourself with the different functions and optical circumstances of the device, befor you start programming.



- 1 16 inputs – Each input has the same functions.
- 2 Matrix
- 3 8 outputs
- 4 Display
- 5 VOLUME/VALUE and PRESET/PARAMETER
- 6 USB-connection
- 7 Power supply

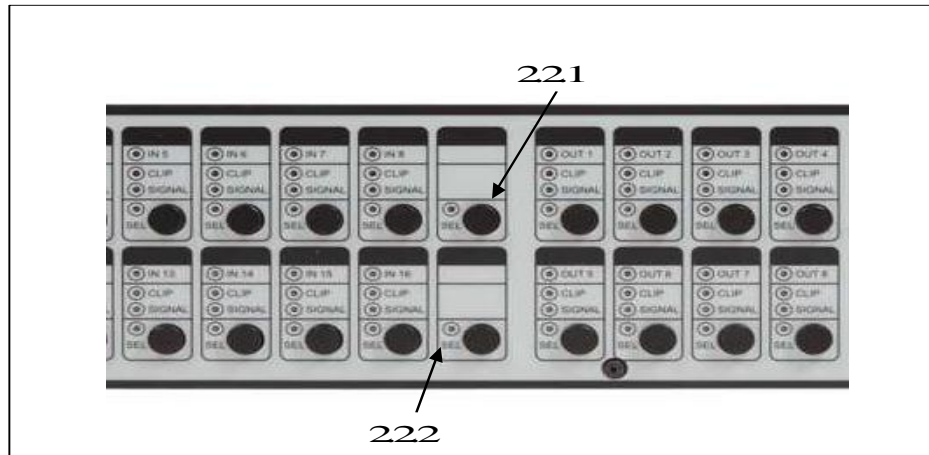
16 inputs Each input has the same functions.



2.1.2 Select button for each input.

2.1.1 LED-Display: Select, Input-on, CLIP, Signal-on

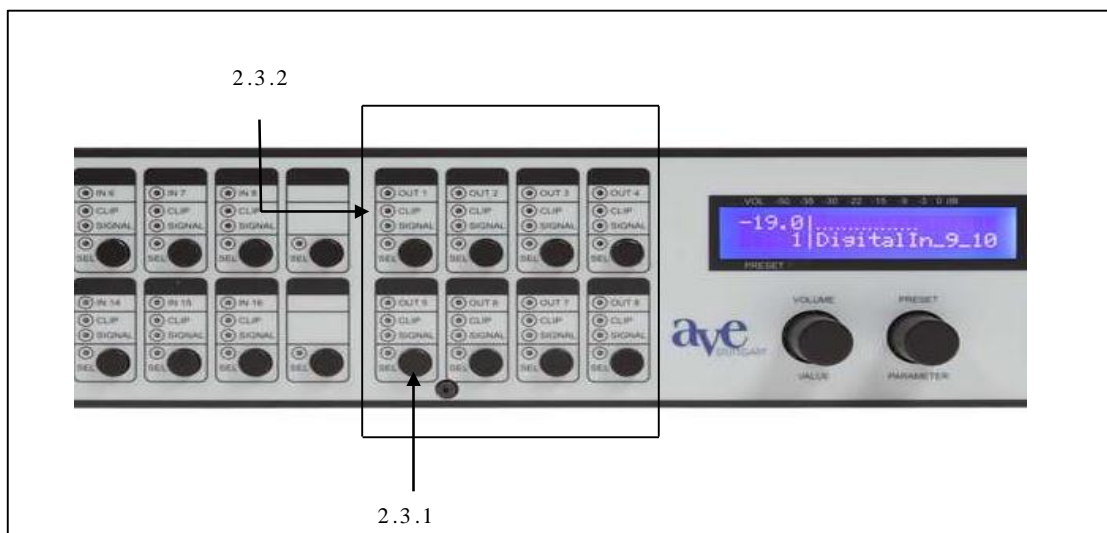
Matrix



2.2.1 Matrix-Select-buttons for assigning inputs to the outputs.

2.2.2 LED-Display for select (SEL)

8 outputs each output has the same functions.



2.3.1 Select-button for the particular output

2.3.2 LED-Display: Select, Output-on, CLIP, Signal-on

Back panel of the “Andante 16”



- 1 Inputs 1 – 16
- 2 CD / Aux
- 3 Outputs 1 - 8
- 4 Aux – Outputs
- 5 RSC 232
- 6 Power supply

This **manual** is divided into **3 sections**:

The **first section** is intended for **qualified personnel**, which adjusts the settings via PC or laptop and the programming of the parameters, the automatic, the Matrix and the delays, etc.

The **second section** explains how the **user** can easily and comfortably change the overall volume and retrieve the presets (up to 20) directly on the “Andante 16” device without using the laptop or PC.

The **third section** is also intended for **qualified personnel** and describes how to make **settings directly on the device** without using the laptop.

Section 1

THE FOLLOWING MODIFICATIONS ARE ONLY TO BE PERFORMED BY QUALIFIED TECHNICAL PERSONNEL!

Das Parameter – Menu / Programming of the „Andante 16”

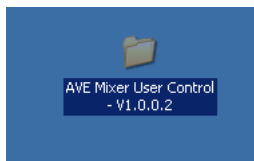
The functions and settings that can be changed in the Parameter-Menu, should only be performed by qualified technical personnel.

Installation of the software

The first step is to install the included Software CD of the “Andante 16”, on your Laptop or PC.

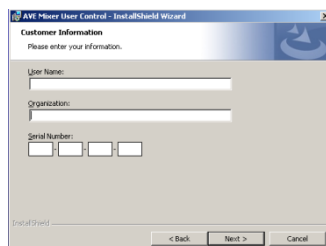
Installation of the program

To install, connect the supplied USB flash drive to your computer. You will start the installation program by clicking on the appearing desktop folder and then clicking on **setup.exe**



Then follow the installation instructions.

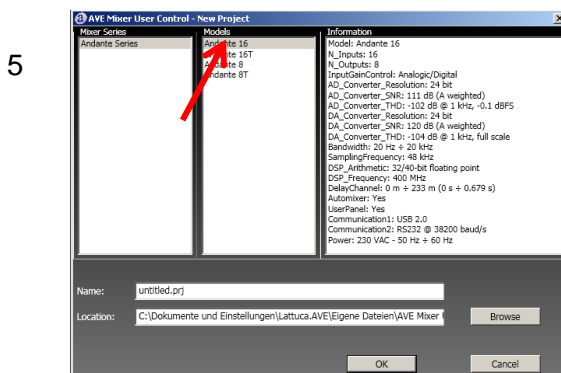
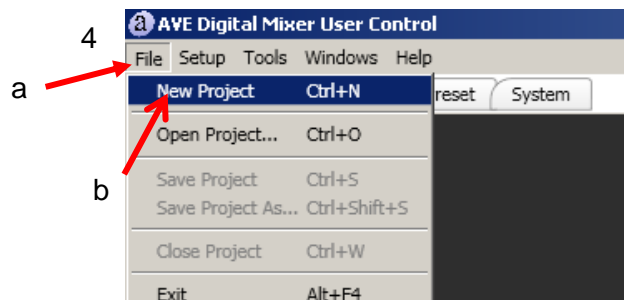
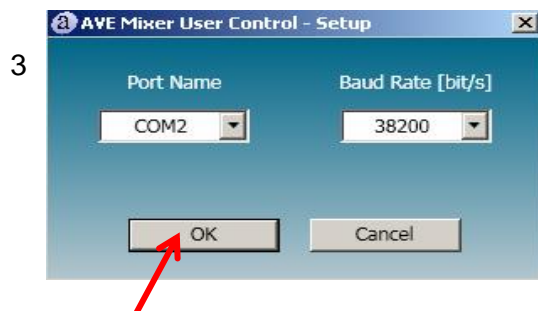
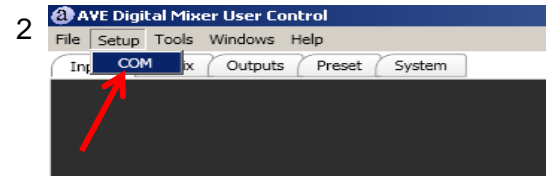
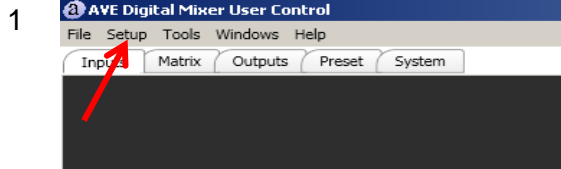
In the illustrated ad, enter your user name, your organization name and the license number that was included.



After installation is complete you will have the following shortcut on the desktop:



Restart your PC or your laptop, so the program can be executed properly. Use the supplied connector cable between your laptop and Andante 16. After starting the program this picture (1) will appear on your desktop: The following pictures (2-15) describe the process of programming.



Specify the type of device and confirm by pressing ok.

In the menu bar you find under "File", "Setup", "Tools" details for handling the program.



You can hide the programming fields by clicking this symbol.

Input

- Enter the name
- Input On/Off
- Phantom power
- GAIN - setting
- Fader level - setting
- Input option for programmer to change the volume through the user (+and-) at every entrance directly at the device

Levels

File Setup Tools Windows Help

Inputs Matrix Outputs Preset System

Input1	Input2	Input3	Input4	Input5	Input6	Input7	Input8	Input9	Input10	Input11	Input12	Input13	Input14	Input15	Input16
Insert I/O Off	Insert I/O Off	Insert I/O Off	Insert I/O Off	Insert I/O Off	Insert I/O Off	Insert I/O Off	Insert I/O Off	Insert I/O Off	Insert I/O Off	Insert I/O Off	Insert I/O Off	Insert I/O Off	Insert I/O Off	Insert I/O Off	Insert I/O Off
Phantom +48 V	Phantom +48 V	Phantom +48 V	Phantom +48 V	Phantom +48 V	Phantom +48 V	Phantom +48 V	Phantom +48 V	Phantom +48 V	Phantom +48 V	Phantom +48 V	Phantom +48 V	Phantom +48 V	Phantom +48 V	Phantom +48 V	Phantom +48 V
Analog Gain [dB] 0.0	Analog Gain [dB] 0.0	Analog Gain [dB] 0.0	Analog Gain [dB] 0.0	Analog Gain [dB] 0.0	Analog Gain [dB] 0.0	Analog Gain [dB] 0.0	Analog Gain [dB] 0.0	Analog Gain [dB] 0.0	Analog Gain [dB] 0.0	Analog Gain [dB] 0.0	Analog Gain [dB] 0.0	Analog Gain [dB] 0.0	Analog Gain [dB] 0.0	Analog Gain [dB] 0.0	Analog Gain [dB] 0.0
Fader Level [dB] -10	Fader Level [dB] -10	Fader Level [dB] -10	Fader Level [dB] -10	Fader Level [dB] -10	Fader Level [dB] -10	Fader Level [dB] -10	Fader Level [dB] -10	Fader Level [dB] -10	Fader Level [dB] -10	Fader Level [dB] -10	Fader Level [dB] -10	Fader Level [dB] -10	Fader Level [dB] -10	Fader Level [dB] -10	Fader Level [dB] -10
0.0 +/- [dB] 4.0	0.0 +/- [dB] 4.0	0.0 +/- [dB] 4.0	0.0 +/- [dB] 4.0	0.0 +/- [dB] 4.0	0.0 +/- [dB] 4.0	0.0 +/- [dB] 4.0	0.0 +/- [dB] 4.0	0.0 +/- [dB] 4.0	0.0 +/- [dB] 4.0	0.0 +/- [dB] 4.0	0.0 +/- [dB] 4.0	0.0 +/- [dB] 4.0	0.0 +/- [dB] 4.0	0.0 +/- [dB] 4.0	0.0 +/- [dB] 4.0

VU-Meters

- Clipping indicator
- RMS level - display Bar for Menu Tools Mixmonitoring Start

VU-Meters

Input 1	Input 2	Input 3	Input 4	Input 5	Input 6	Input 7	Input 8	Input 9	Input 10	Input 11	Input 12	Input 13	Input 14	Input 15	Input 16
Clipping	Clipping	Clipping	Clipping	Clipping	Clipping	Clipping	Clipping	Clipping	Clipping	Clipping	Clipping	Clipping	Clipping	Clipping	Clipping
RMS Level [dB] -10	RMS Level [dB] -10	RMS Level [dB] -10	RMS Level [dB] -10	RMS Level [dB] -10	RMS Level [dB] -10	RMS Level [dB] -10	RMS Level [dB] -10	RMS Level [dB] -10	RMS Level [dB] -10	RMS Level [dB] -10	RMS Level [dB] -10	RMS Level [dB] -10	RMS Level [dB] -10	RMS Level [dB] -10	RMS Level [dB] -10

Equalizers

- Highpass-filter on/off
- Parametric equalizer

Equalizers

Input 1	Input 2	Input 3	Input 4	Input 5	Input 6	Input 7	Input 8	Input 9	Input 10	Input 11	Input 12	Input 13	Input 14	Input 15	Input 16
Highpass 160 Hz Off	Highpass 160 Hz Off	Highpass 160 Hz Off	Highpass 160 Hz Off	Highpass 160 Hz Off	Highpass 160 Hz Off	Highpass 160 Hz Off	Highpass 160 Hz Off	Highpass 160 Hz Off	Highpass 160 Hz Off	Highpass 160 Hz Off	Highpass 160 Hz Off	Highpass 160 Hz Off	Highpass 160 Hz Off	Highpass 160 Hz Off	Highpass 160 Hz Off
Param. EQ Open	Param. EQ Open	Param. EQ Open	Param. EQ Open	Param. EQ Open	Param. EQ Open	Param. EQ Open	Param. EQ Open	Param. EQ Open	Param. EQ Open	Param. EQ Open	Param. EQ Open	Param. EQ Open	Param. EQ Open	Param. EQ Open	Param. EQ Open

AutoMix (1)

- On/Off
- On/Off Reduction of the level during microphone is activated
- Adjustment of priority

AutoMix (1)

Input1	Input2	Input3	Input4	Input5	Input6	Input7	Input8	Input9	Input10	Input11	Input12	Input13	Input14	Input15	Input16
Selecting	Selecting	Selecting	Selecting	Selecting	Selecting	Selecting	Selecting	Selecting	Selecting	Selecting	Selecting	Selecting	Selecting	Selecting	Selecting
Insert I/O Off	Insert I/O Off	Insert I/O Off	Insert I/O Off	Insert I/O Off	Insert I/O Off	Insert I/O Off	Insert I/O Off	Insert I/O Off	Insert I/O Off	Insert I/O Off	Insert I/O Off	Insert I/O Off	Insert I/O Off	Insert I/O Off	Insert I/O Off
Hold Time [ms] 1000	Hold Time [ms] 1000	Hold Time [ms] 1000	Hold Time [ms] 1000	Hold Time [ms] 1000	Hold Time [ms] 1000	Hold Time [ms] 1000	Hold Time [ms] 1000	Hold Time [ms] 1000	Hold Time [ms] 1000	Hold Time [ms] 1000	Hold Time [ms] 1000	Hold Time [ms] 1000	Hold Time [ms] 1000	Hold Time [ms] 1000	Hold Time [ms] 1000
Attenuation [dB] -40.0	Attenuation [dB] -40.0	Attenuation [dB] -40.0	Attenuation [dB] -40.0	Attenuation [dB] -40.0	Attenuation [dB] -40.0	Attenuation [dB] -40.0	Attenuation [dB] -40.0	Attenuation [dB] -40.0	Attenuation [dB] -40.0	Attenuation [dB] -40.0	Attenuation [dB] -40.0	Attenuation [dB] -40.0	Attenuation [dB] -40.0	Attenuation [dB] -40.0	Attenuation [dB] -40.0
NOM Gain Off	NOM Gain Off	NOM Gain Off	NOM Gain Off	NOM Gain Off	NOM Gain Off	NOM Gain Off	NOM Gain Off	NOM Gain Off	NOM Gain Off	NOM Gain Off	NOM Gain Off	NOM Gain Off	NOM Gain Off	NOM Gain Off	NOM Gain Off
Priority 1	Priority 1	Priority 1	Priority 1	Priority 1	Priority 1	Priority 1	Priority 1	Priority 1	Priority 1	Priority 1	Priority 1	Priority 1	Priority 1	Priority 1	Priority 1

AutoMix (2)

- Holding time

AutoMix (2)

Input1	Input2	Input3	Input4	Input5	Input6	Input7	Input8	Input9	Input10	Input11	Input12	Input13	Input14	Input15	Input16
Selecting	Selecting	Selecting	Selecting	Selecting	Selecting	Selecting	Selecting	Selecting	Selecting	Selecting	Selecting	Selecting	Selecting	Selecting	Selecting
Insert I/O Off	Insert I/O Off	Insert I/O Off	Insert I/O Off	Insert I/O Off	Insert I/O Off	Insert I/O Off	Insert I/O Off	Insert I/O Off	Insert I/O Off	Insert I/O Off	Insert I/O Off	Insert I/O Off	Insert I/O Off	Insert I/O Off	Insert I/O Off
Hold Time [ms] 1000	Hold Time [ms] 1000	Hold Time [ms] 1000	Hold Time [ms] 1000	Hold Time [ms] 1000	Hold Time [ms] 1000	Hold Time [ms] 1000	Hold Time [ms] 1000	Hold Time [ms] 1000	Hold Time [ms] 1000	Hold Time [ms] 1000	Hold Time [ms] 1000	Hold Time [ms] 1000	Hold Time [ms] 1000	Hold Time [ms] 1000	Hold Time [ms] 1000
Attenuation [dB] -40.0	Attenuation [dB] -40.0	Attenuation [dB] -40.0	Attenuation [dB] -40.0	Attenuation [dB] -40.0	Attenuation [dB] -40.0	Attenuation [dB] -40.0	Attenuation [dB] -40.0	Attenuation [dB] -40.0	Attenuation [dB] -40.0	Attenuation [dB] -40.0	Attenuation [dB] -40.0	Attenuation [dB] -40.0	Attenuation [dB] -40.0	Attenuation [dB] -40.0	Attenuation [dB] -40.0
NOM Gain Off	NOM Gain Off	NOM Gain Off	NOM Gain Off	NOM Gain Off	NOM Gain Off	NOM Gain Off	NOM Gain Off	NOM Gain Off	NOM Gain Off	NOM Gain Off	NOM Gain Off	NOM Gain Off	NOM Gain Off	NOM Gain Off	NOM Gain Off
Priority 1	Priority 1	Priority 1	Priority 1	Priority 1	Priority 1	Priority 1	Priority 1	Priority 1	Priority 1	Priority 1	Priority 1	Priority 1	Priority 1	Priority 1	Priority 1
Reset Time [ms] 0															

Compressors

[illegible]

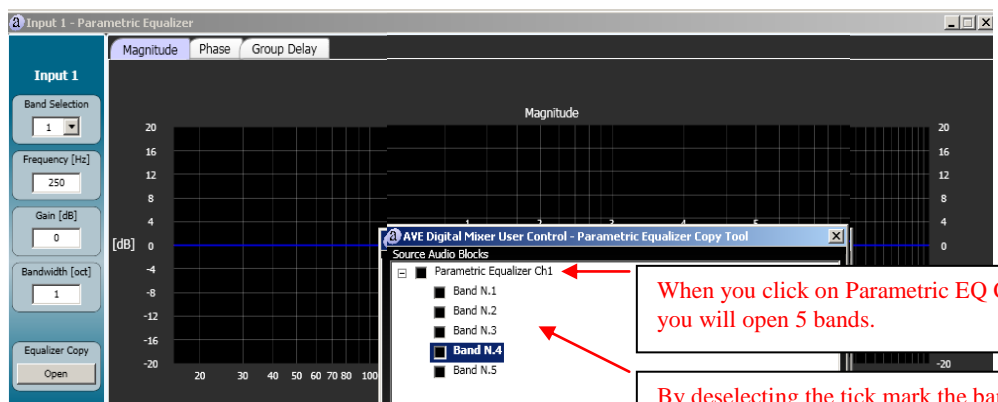
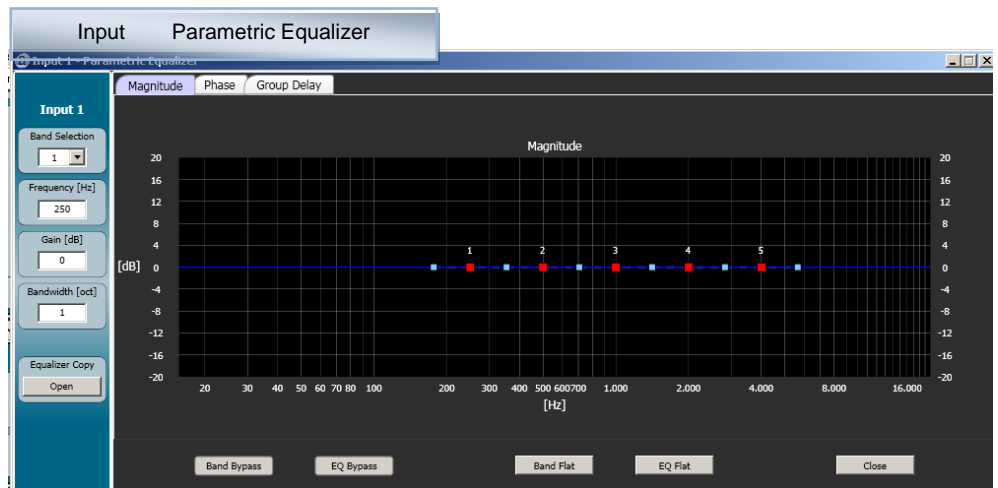
Noise Gates

[illegible]

Parametric equalizer:

5 parameters are available for each input.
The settings can be copied to other inputs.

Open to copy settings



When you click on Parametric EQ Ch 1 you will open 5 bands.

By deselecting the tick mark the band will not be copied.

Copy and close

Matrix: activation of input 1-16 to output 1-8

[illegible]

Output

name →

On/Off →

Level - settings →

Input option for
programmers for
changing the volume
through USER (+
and -) at every outlet
directly at the device →

Delay settings →

The 'Levels' panel is divided into tabs: Inputs, Matrix, Outputs, Preset, and System. The 'Outputs' tab is active, showing a grid of 8 output channels (Output1 to Output8). Each channel has the following controls:

- Insert I/O:** A green 'On' button.
- Output Level [dB]:** A vertical slider ranging from -60 to +10 dB, with a current value of 0 dB.
- +/- [dB]:** A control with three buttons: 0.0, 4.0, and -12.0.
- Delay [m]:** A control with a button set to 0.
- Phase:** A control with a button set to 0°.

Clipping - settings →

Level – display when
Mixmonitoring start is
activated →

The 'VUMeters' panel shows 8 output channels (Output 1 to Output 8). Each channel has:

- Clipping:** A light indicator.
- RMS Level [dB]:** A vertical meter with a color gradient from blue (-100 dB) to red (+10 dB). The current level is indicated by a green bar.
- Bottom display:** A small digital display showing '---'.

Parametric
Equalizer →

Graphic
Equalizer →

The 'Equalizers' panel shows 8 output channels (Output 1 to Output 8). Each channel has two equalizer controls:

- Param. EQ:** A button labeled 'Open'.
- Graphic EQ:** A button labeled 'Open'.

ON/OFF →

The 'Limiters' panel shows 8 output channels (Output 1 to Output 8). Each channel has a 'Limiter' button set to 'Off'.

ON/OFF



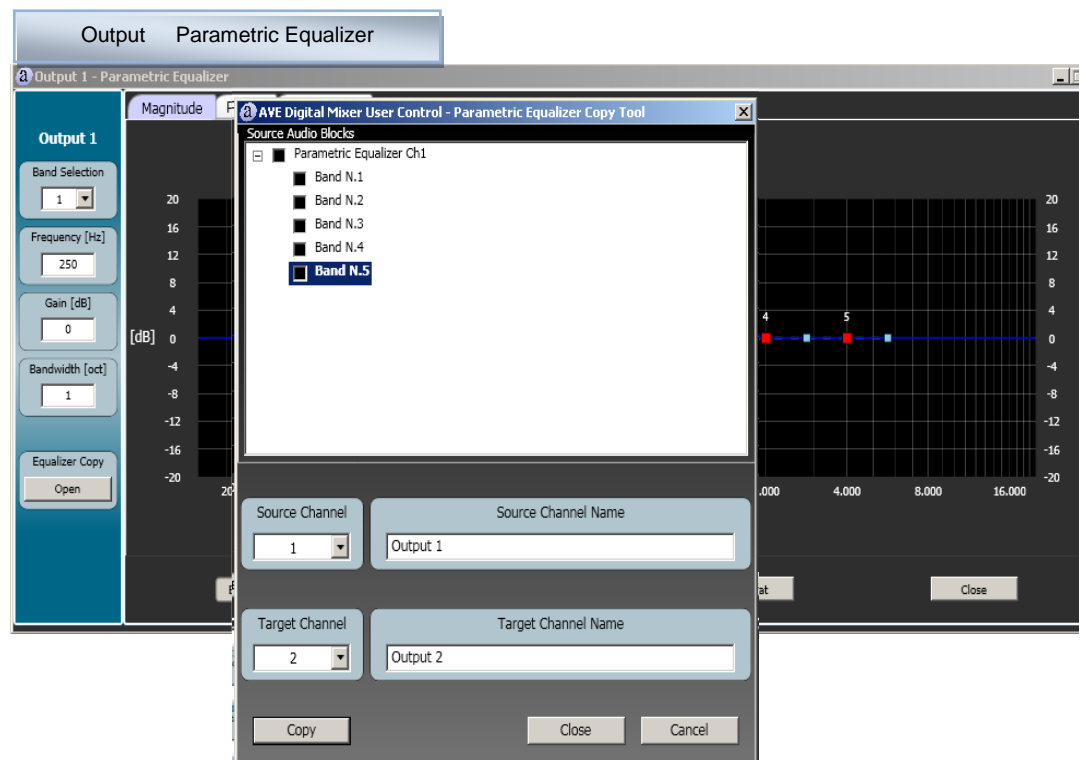
Compressors							
Output1	Output2	Output3	Output4	Output5	Output6	Output7	Output8
Activity <input type="radio"/>	Activity <input type="radio"/>	Activity <input type="radio"/>	Activity <input type="radio"/>	Activity <input type="radio"/>	Activity <input type="radio"/>	Activity <input type="radio"/>	Activity <input type="radio"/>
Insert I/O Off	Insert I/O Off	Insert I/O Off	Insert I/O Off	Insert I/O Off	Insert I/O Off	Insert I/O Off	Insert I/O Off
Threshold [dB] 0,0	Threshold [dB] 0,0	Threshold [dB] 0,0	Threshold [dB] 0,0	Threshold [dB] 0,0	Threshold [dB] 0,0	Threshold [dB] 0,0	Threshold [dB] 0,0
Ratio N:1 1:1	Ratio N:1 1:1	Ratio N:1 1:1	Ratio N:1 1:1	Ratio N:1 1:1	Ratio N:1 1:1	Ratio N:1 1:1	Ratio N:1 1:1
Post Gain [dB] 0,0	Post Gain [dB] 0,0	Post Gain [dB] 0,0	Post Gain [dB] 0,0	Post Gain [dB] 0,0	Post Gain [dB] 0,0	Post Gain [dB] 0,0	Post Gain [dB] 0,0
Attack Time [ms] 10	Attack Time [ms] 10	Attack Time [ms] 10	Attack Time [ms] 10	Attack Time [ms] 10	Attack Time [ms] 10	Attack Time [ms] 10	Attack Time [ms] 10
Release Time [ms] 500	Release Time [ms] 500	Release Time [ms] 500	Release Time [ms] 500	Release Time [ms] 500	Release Time [ms] 500	Release Time [ms] 500	Release Time [ms] 500

ON/OFF

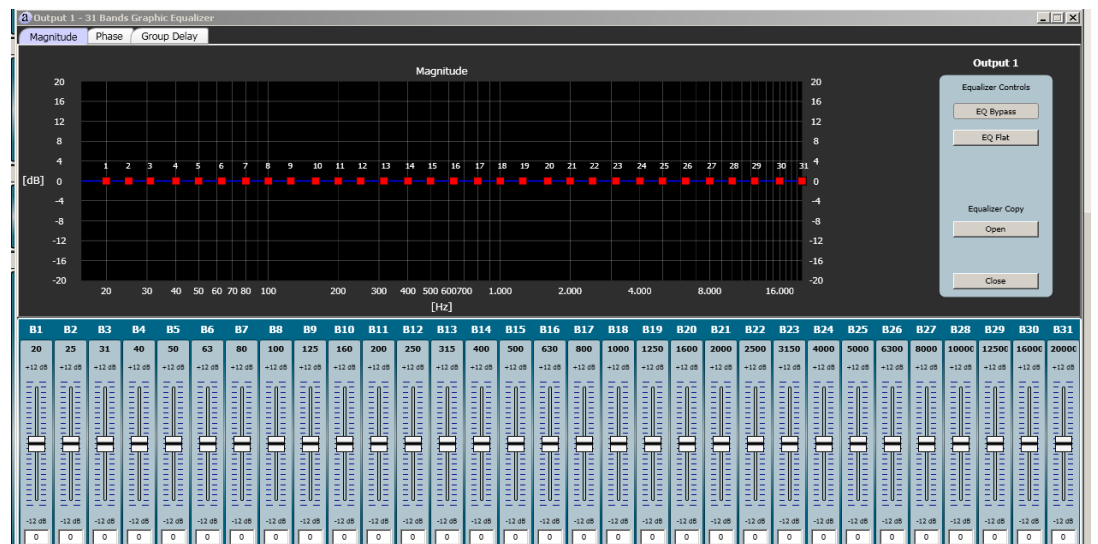


Noise Gates							
Output1	Output2	Output3	Output4	Output5	Output6	Output7	Output8
Activity <input type="radio"/>	Activity <input type="radio"/>	Activity <input type="radio"/>	Activity <input type="radio"/>	Activity <input type="radio"/>	Activity <input type="radio"/>	Activity <input type="radio"/>	Activity <input type="radio"/>
Insert I/O Off	Insert I/O Off	Insert I/O Off	Insert I/O Off	Insert I/O Off	Insert I/O Off	Insert I/O Off	Insert I/O Off
Threshold [dB] -60,0	Threshold [dB] -60,0	Threshold [dB] -60,0	Threshold [dB] -60,0	Threshold [dB] -60,0	Threshold [dB] -60,0	Threshold [dB] -60,0	Threshold [dB] -60,0
Hold Time [ms] 3000	Hold Time [ms] 3000	Hold Time [ms] 3000	Hold Time [ms] 3000	Hold Time [ms] 3000	Hold Time [ms] 3000	Hold Time [ms] 3000	Hold Time [ms] 3000

Setting and copying of the parametric EQ output follows the same procedure as the parametric EQ input.

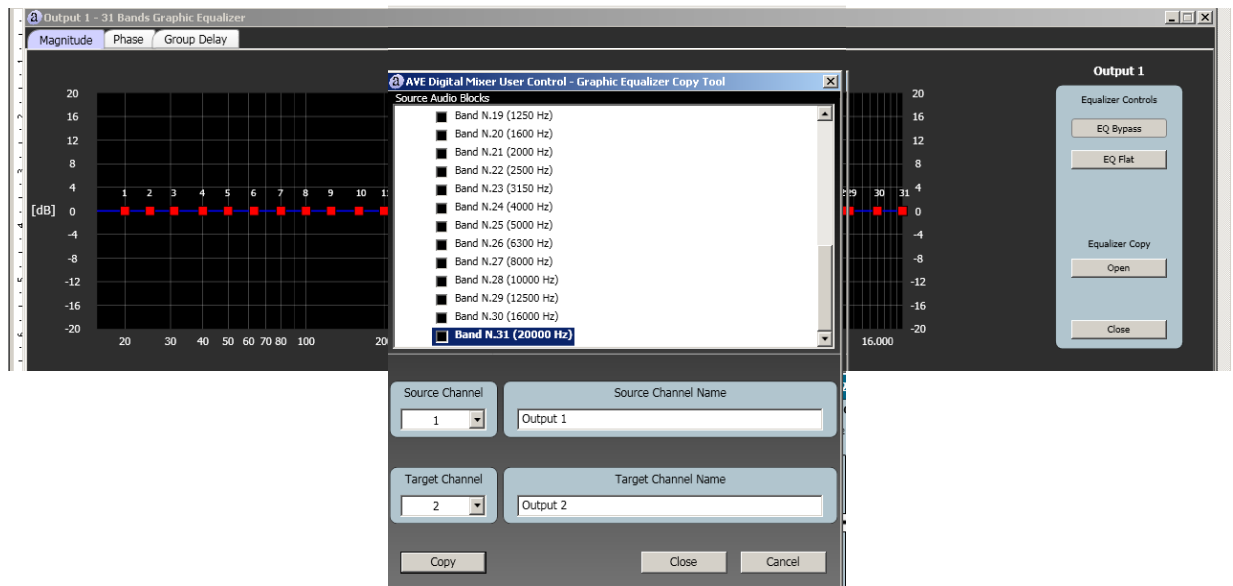


Graphic EQ: Settings

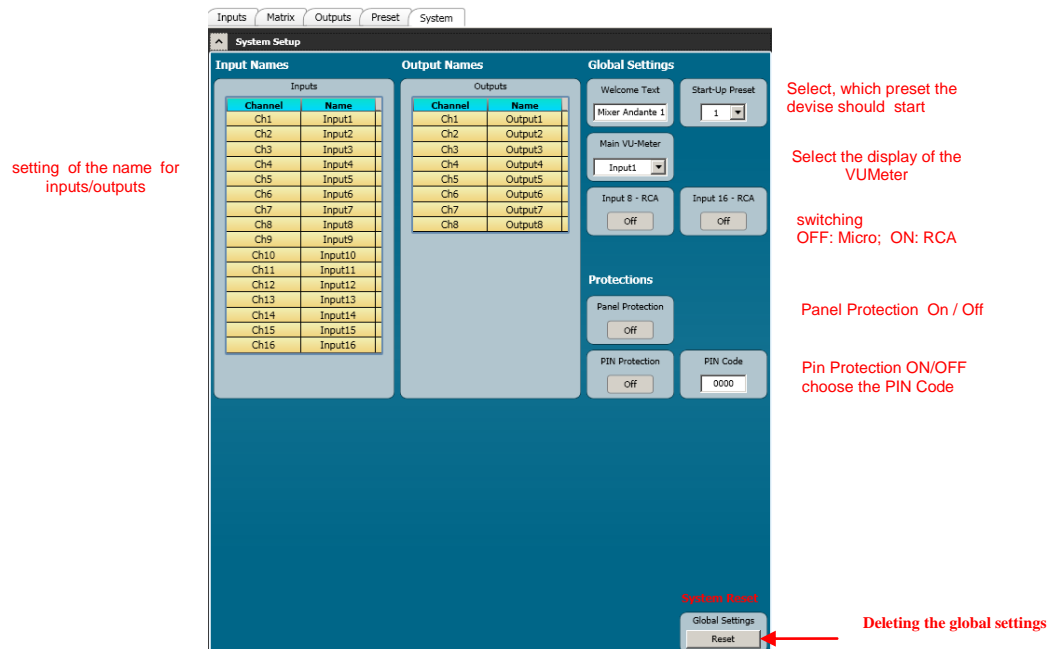


Graphic EQ: Copy

(Copying of the 31 bands in the Graphic EQ follows the same procedure as with the parametric EQ).



System Setup



Panel protection (User Mode):

If Panel protection is turned on you can change the volume by pressing and turning the VOLUME button. To select a preset you press and turn the PRESET button

Pin protection:

To activate the pin on admin mode.

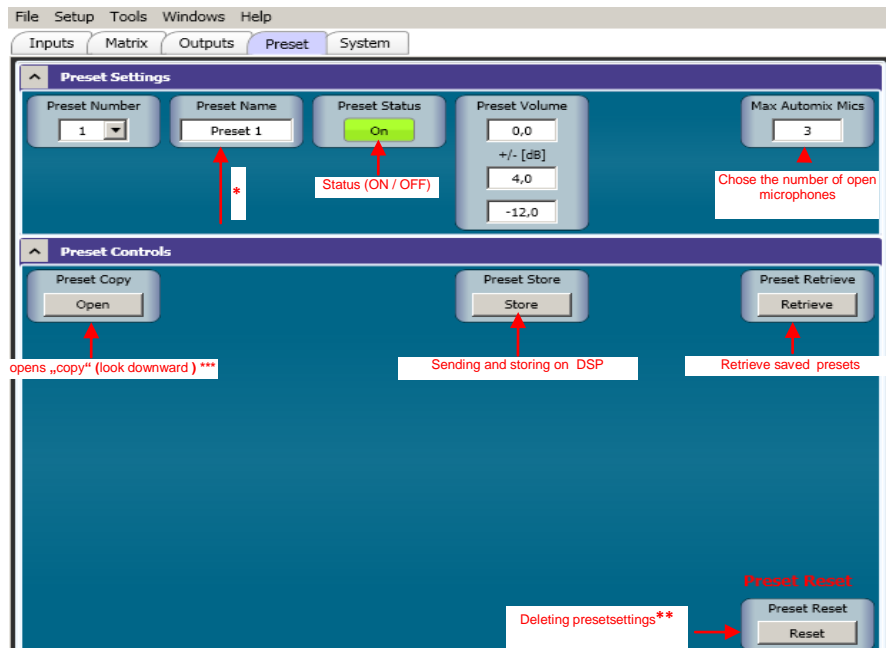
Pin code:

Enter your own password (Admin Modus)

Complete system reset:

Attention: This function erases all previously stored settings and resets the device back to factory settings.

Preset Setup

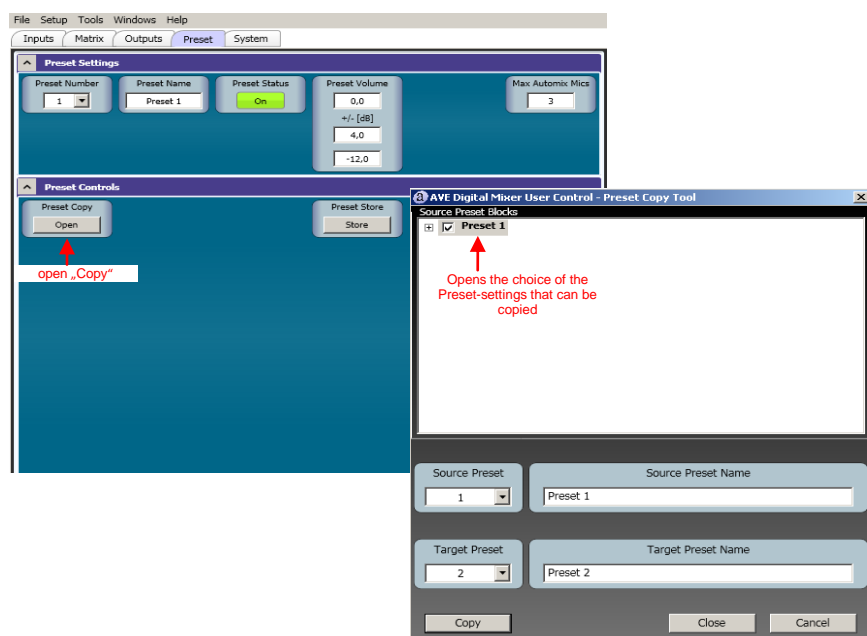


*) Preset name:

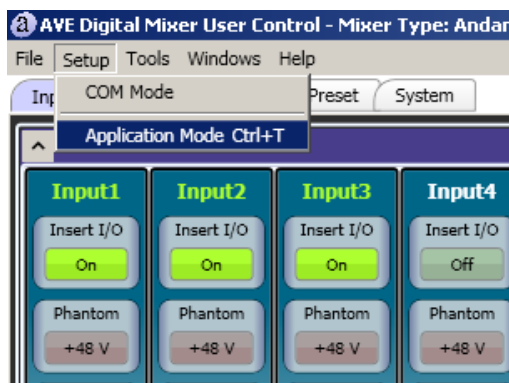
Before you save a configuration to the Andante 16 (Store) You need to give a name to the preset to be saved 1 - 20 to be able to retrieve this preset with the retrieve function again.

***) Preset reset:

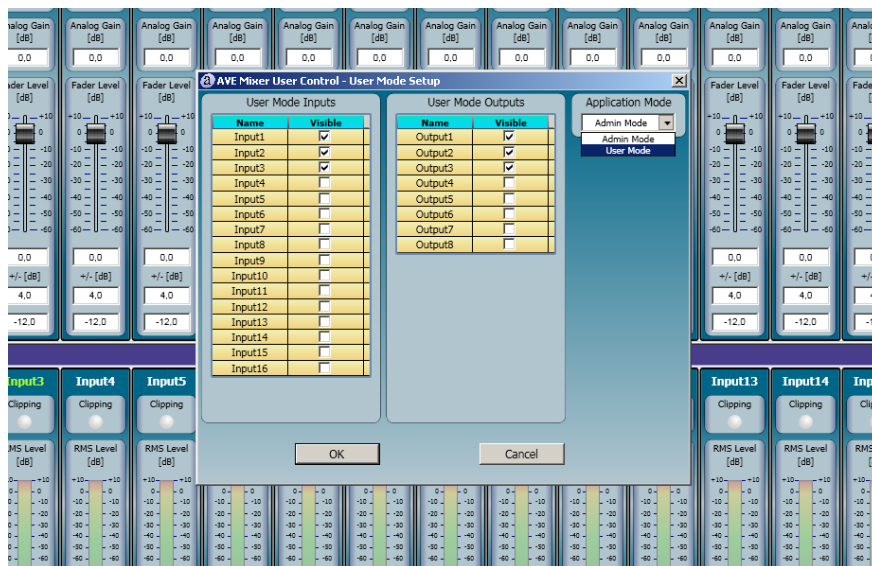
With this button, the respective preset setting is canceled.



Description of the function by using a touch-panel



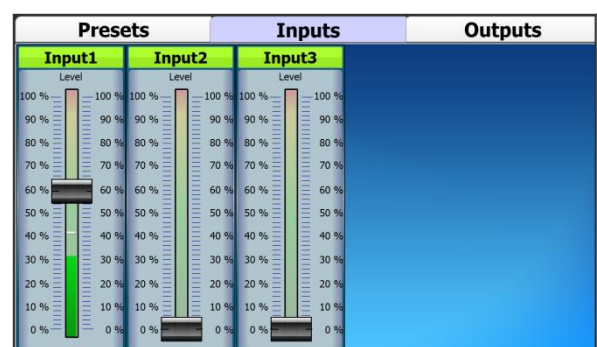
Selection of the „Application Mode“



Application Mode:
„Admin/User Modus“

Click at „User Mode Input/Output“ for the microphones/outputs , which should be operated at the touch-panel.

OK: → the following picture appears:



„Preset Input Output“selection



example: Input

With the Ctrl + T key you come back to „Application Mode“.

Section 2

Operation in "user mode"

Note:

The volume control in "user mode" is restricted in order to prevent operating errors. If the protection is activated, the volume is adjusted by pressing and turning the v/v button and to select a preset by pressing and turning the p/p button.

Control of the entire volume

By turning the v/v button the total volume will be increased or decreased (master volume).

Select preset

With the p/p button a desired preset is selected.

Input level 1-16

Press the select (Sel) button and turn v/v key, to increase or to decrease the volume.

Output level 1-8

Press the select (Sel) button and turn v/v key, to increase or to decrease the volume.

Press the v/v button to return to the main menu.

Section 3

Admin mode

Please note that this mode must be executed by qualified personnel.

Press and hold the p/p button and turn the power on until the following appears on the display:

Admin Mode - Preset 1

With **Preset 1 - 20** the following functions can be performed:

Input 1:

Press the Select button

w/w button input on/off

p/p input gain - w/w dB Level + -

p/p Volume Control - w/w dB Level + -

p/p phantom power

w/w on/off p/p automix function

w/w on/off

p/p RMS VU meter-level input 1.

To return to the main menu press the w/w button briefly.

The same procedure applies for Input 2 – 16.

The same procedure applies to Preset 2 – 20.

Output 1-8

Press the Select button

w/w button output on/off

p/p button level - w/w dB level setting + -

p/p button RMS VU-meter level output.

The same procedure applies to Output 2 – 8.

To return to the main menu press the w/w button briefly.

Matrix

Select button 1 or 2

You will see the following:

Matrix Status Input 1 to Output 1

p/p button matrix level w/w button dB level setting + -

The same procedure applies for input 2 – 16 at output 1.

The same procedure applies for input 1-16 at output 2 – 8.

To return to the main menu press the w/w button briefly.

Preset Setup

By briefly pressing the p/p button you will be asked to enter a pin – a four digit number.

Insert pin (default = 0000):

- Turn the w/w button for letters, special characters and numbers.
- If you press the p/p button briefly, the cursor jumps to the next position.

After entering 4 numbers, press the p/p button to reach the next menu. This inscription appears on the display:

Save Changes

Exit Ok

Turn the p/p button until **Preset Setup** appears on the display, press briefly to go to the menu.

By pressing the button again **Preset Selection** appears. With w/w button **Choose Preset** occurs.

Turn the p/p button for **Preset Status** - w/w button on/off

Turn the p/p button for Master Volume - w/w for volume regulation + -

Turn the p/p button for number of open microphones - w/w choice of the number of open microphones.

By turning the p/p button the following appears:

Preset 1 Name (enter preset name)

- Turn the w/w button for letters, special characters and numbers.
- If you press the p/p button briefly, the cursor jumps to the next position.

By turning the p/p button the following appears:

Preset 1: In EQs

Preset 1: Copy

Turning of the w/w button: Selects which copy from Preset 1 (in EQs) to Preset 2-20

Briefly press the p/p button: copy starts.

By turning the p/p button the following appears:

Preset 1: Out EQs

Preset 1: Copy

Turn w/w button: Selects which copy from Preset 1 (Out EQs) to Preset 2-20

Briefly press the p/p button: copy starts.

Turn p/p button

Preset 1: Setup

Preset 1: Copy

Turn w/w button: Selects which copy from Preset 1 (Setup) to Preset 2-20

Briefly press the p/p button: copy starts.

Turn p/p button

Preset 1 Setup

Reset

Briefly press p/p button to delete the displayed preset

Briefly press w/w button - turn p/p button (go back)

Save Changes

-> Exit OK

Press w/w button: Exits the menu without saving

Press p/p button 2 times: Save

By turning the p/p button you leave the **Preset Setup** and enter

System Setup

Briefly press to enter the menu.

Startup preset

Turn w/w button: selection of presets, with which the device starts at switching on

Turn p/p button: main VU-meter
Turn w/w button: selects the VU meter in the display input 1-16 or output 1-8
Turn p/p button: panel protection
Turn w/w button: panel protection on/off in user mode
Turn p /p button: PIN code request
Turn w/w button: PIN code request on/off in admin mode
Turn p/p button: PIN code change
Press p/p: change PIN code
Insert New Pin: Enter the new PIN and confirm (press p/p button)
Turn p/p button: RCA Input 8 Enable (turn on input 8 to RCA - CD, cassette)
Turn w/w button: on/off
Turn p/p button: RCA Input 16 Enable (turn on input 16 to RCA - CD, cassette)
Turn p/p button: welcome text (any entry)
Procedure as text or numerical entry (see above)
Turn p/p button: LCD contrast level
Turn w/w button: sensitivity adjustment
Turn p/p button: global settings - reset
Press p/p button: confirmation No / Yes

Attention: If you press yes, you will delete all previous settings and reset the unit back to factory condition!

Andante 16 – Technical Specifications

Analog Input Section:

• Number of balanced inputs	14 + 2 (XLR type connector)
• Number of unbalanced inputs	2 (RCA type connector)
• Dynamic range	122 dB ("A" weighted)
• Analog gain (digitally adjustable)	0 dB ÷ 70 dB with 0.5 dB steps
• Nominal sensitivity (balanced input)	-84 dBu (38,8 μ V _{rms})
• Phantom power (digitally activated)	+48 V stabilized, very low noise
• Balanced input impedance (XLR)	5,8 k Ω @ 1 kHz
• Unbalanced input impedance (RCA)	14,7 k Ω @ 1 kHz
• Frequency response (20 Hz ÷ 20 kHz @ +4dBu)	-0.5 dB ÷ 0 dB
• Maximum balanced input level	20,2 dBu (7,92 V _{rms})
• Input protections	radio frequency interference (RFI) transient voltage spikes external overvoltage

Analog Output Section:

• Number of balanced outputs	6 + 2 (XLR type connector)
• Number of unbalanced outputs	2 (RCA type connector)
• Dynamic range	121 dB ("A" weighted)
• Residual noise of output driver	-101 dBu (20 Hz ÷ 20 kHz)
• Nominal level (balanced output)	4 dBu (1,23 V _{rms})
• Maximum level (balanced output)	20.2 dBu (7,92 V _{rms})
• Output impedance	50 Ω typical
• Output protections	short circuits radio frequency interference (RFI) transient voltage spikes external overvoltage

Analog to Digital Converter

• Bit resolution	24-bit
• Converter type	sigma delta
• Sampling frequency (Fs)	48 kHz
• Signal to noise ratio (SNR)	111 dB ("A" weighted @ 48 kHz)
• Dynamic range	111 dB (-60 dB _{FS})
• Total harmonic distortion (THD)	-102 dB (1 kHz, -0,1 dB _{FS})
• Oversampling factor	128 Fs

Digital Signal Processor

- DSP
 - 32-bit / 40-bit, Floating-Point
 - 400 MHz - 2,5 ns instruction cycle
 - Super Harvard Architecture
 - 2,4 GFLOPS, 2Mbits SRAM

Digital to Analog Converter

- Bit resolution
 - 24-bit
- Converter type
 - sigma delta
- Sampling frequency (F_s)
 - 48 kHz
- Signal to noise ratio (SNR)
 - 117 dB ("A" weighted @ 48 kHz)
- Dynamic range
 - 117 dB (-60 dB_{FS})
- Total harmonic distortion (THD)
 - 104 dB (1 kHz, -0,1 dB_{FS})
- Delay time
 - 0,66 ms
- Oversampling factor
 - 256 F_s

Digital Processing

Inputs Blocks:

- Highpass filter (anti hum, anti rumble, ect)
 - Butterworth filter type with cutting frequency at 160 Hz and slope 12 dB/Octave
- 5-PEQs equalizer
 - Frequency [20 Hz ÷ 20 kHz]
 - Gain [-15 dB ÷ 15 dB]
 - Bandwidth [0,014 ÷ 6,672 oct]
- Noise gate
 - Threshold [-60 dB_{FS} ÷ 0 dB_{FS}]
 - Hold Time [100 ms ÷ 10 s]
- Dynamic compressor range
 - Threshold [-90 dB_{FS} ÷ 20 dB_{FS}]
 - Ratio [R=1:1 ÷ R=20:1]
 - Post Gain [-20 dB ÷ 20 dB]
 - Attack Time [1 ms ÷ 250 ms]
 - Release Time [10 ms ÷ 2500 ms]
-

- Automix function

Hold Time,	[100 ms ÷ 5000 ms]
Attenuation	[-60 dB ÷ 0 dB]
NOM Gain	(increase post gain of -3 dB for each doubling of opened automix channels)
Priority	[1 (lowest) ÷ 5 (highest)]
Max opened channels	[1 ÷ 16]

- Fader level [-60 dB ÷ 10 dB]

Input / Output Routing Matrix:

- Matrix size 16 In / 8 Out
- Matrix cross point level adjusting [-60 dB ÷ 10 dB]

Output Blocks:

- 5-PEQs equalizer

Frequency	[20 Hz ÷ 20 kHz]
Gain	[-15 dB ÷ 15 dB]
Bandwidth	[0,014 ÷ 6,672 oct]
- 31-Bands graphic equalizer

Gain	[-12 dB ÷ 12 dB]
------	------------------
- Noise gate

Threshold	[-60 dB _{FS} ÷ 0 dB _{FS}]
Hold Time	[100 ms ÷ 10 s]
- Dynamic compressor range

Threshold	[-90 dB _{FS} ÷ 20 dB _{FS}]
Ratio	[R=1:1 ÷ R=20:1]
Post Gain	[-20 dB ÷ 20 dB]
Attack Time	[1 ms ÷ 250 ms]
Release Time	[10 ms ÷ 2500 ms]
- Limiter

Threshold fixed at 0 dB _{FS}

- Delay [0 m ÷ 233 m], [0 ms ÷ 679 ms]
- Phase control [0°, 180°]
- Output level [-60 dB ÷ 10 dB]
- Master level [-60 dB ÷ 10 dB]

Data Connections

- Front panel USB 2.0
- Rear panel RS232 @ 38400 kbit/s

Display

- LCD 20 characters x 2 lines

PSU Module

- AC range 230 VAC \pm 10%
- Input frequency 47 Hz to 67 Hz
- Power consumption max 33 W
- Analog voltages +48 VDC, \pm 15 VDC, +5 VDC
- Digital voltages +3.3 VDC, +1,2 VDC
- Voltage regulators linear type (no switching noise)

Mechanical

- Height 88 mm
- Width 484 mm
- Depth 260 mm + 60 mm connector
- Weight 7 kg

Temperature Range

- Indoor 0°C to 40°C (32°F to 102°F)

Compliances

- AES48-2005 grounding scheme
- 2002/95/EC
- CE

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